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Review of Options Available to the United States

If It Withdraws from the International Atomic Energy Agency

Introduction

This paper reviews the major options that would be available to the United States if the United States elected to withdraw or significantly modify its participation in the International Atomic Energy Agency as a result of the recent alarming moves toward politicalization and confrontation in that organization. While the U.S. might elect to once again participate in the IAEA under certain conditions, the current deterioration in the political atmosphere mandates that all of the major options be reviewed — in light of the critical importance that IAEA safeguards have played in the international nonproliferation regime. This effort to date has focused on analysis of safeguards options as this appears to be the most critical problem in considering alternatives to IAEA. Should one or more safeguards options appear attractive, then efforts could be directed toward evaluation of options for other Agency activities.

Background

The U.S. has viewed the IAEA's safeguards program as crucial from the standpoint of global security and, in concert with other nations, has made the Agency the centerpiece of the international nonproliferation regime. Consequently, while several other measures also are important to U.S. nonproliferation strategy. (such as export controls, policies of cooperation, and intelligence capabilities) IAEA safeguards have been at the core of U.S. nonproliferation policy as well as the nonproliferation policies of the vast majority of nations throughout the world. The requirement for IAEA safeguards also has been integrated into U.S. laws and the NPT.

The Current Policy and Legal Framework

No U.S. bilateral agreement for cooperation specifically requires the US to be a member of the IAEA. U.S. bilateral agreements for cooperation (with the exception of the U.S. Agreement for Cooperation with EURATOM) do, however, require the application of IAEA safeguards. These agreements also provide for bilateral U.S. fallback safeguards rights in the event that the IAEA is not or will not be applying safeguards. Also, the NPT relies on IAEA safeguards as the central measure to verify compliance with the Treaty's undertakings. Specifically, Article III of the Treaty requires non-nuclear weapon states parties to the Treaty to place their entire civil nuclear programs under IAEA safeguards.

Moreover, all parties (including the U.S.) undertake not to provide certain assistance (such as fissionable materials) unless IAEA safeguards are applied to the activities involved.

These legal obligations are further reinforced for the U.S. by provisions of the U.S. Nuclear Non-Proliferation Act (NNPA) which specifically require the application of IAEA safeguards as a precondition to U.S. exports of nuclear materials, equipment and components to non-nuclear weapon states. The NNPA also provides that full scope safeguards must now apply as a condition of U.S. exports of nuclear fuel and equipment unless the President waives this requirement and Congress does not disagree. Consequently, even if the U.S. withdrew from the IAEA, it would still have a legal obligation to have IAEA safeguards apply to its assistance. Fractically all supplier states (with the exception of the PRC) require IAEA safeguards to apply to their exports. The London Supplier Guidelines also call for the application of IAEA controls when nuclear fuels and equipment are to be supplied.

Thus, while other safeguard options (including a reversion to bilateral controls) can be conceptualized (and can be made technically feasible in terms of performing effective inspection on U.S. supplied material and equipment given sufficient resources and time to implement the program) these factors serve to illustrate the -

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central role IAEA safeguards have played to date, and the serious complications that will have to be faced if a decision is made to modify the existing U.S./IAEA relationship.

The Historical Rationale for IAEA

Early in the U.S. international program and before the IAEA safeguards system was fully established, the U.S. actually administered a bilateral safeguards system. However, during the 1960's it became U.S. policy to transfer the function to Vienna.

It was judged at the time that multinational controls administered by the IAEA would be more credible to the world at large than a series of bilateral controls, that a series of bilateral controls administered by various suppliers would be duplicative in nature or would lack uniformity, that some suppliers either would not or could not do an effective job in applying bilateral safeguards, and that bilateral controls might not be acceptable to many consumers. However, when the U.S. relinquished its bilateral safeguards responsibility to the IAEA it was recognized, at least in principle, that the U.S. would reduce its ability to unilaterally ensure the adequacy of the safeguards applicable to its assistance.

The Fundamental Problem at Hand

Notwithstanding this past solid commitment to TAEA safeguards, we now are facing trends and developments in Vienna which could throw into question the IAEA's ability to perform its safeguards, and function in an effective, credible and objective manner. The recent rejection by the IAEA General Conference of Israel's credentials was symptomatic of a more fundamental problem, which has been growing in severity. Over the past few years, there has been a growing tension in the IAEA between developing nations (several of whom have little interest in nuclear power) and the advanced, supplier nations. More fundamentally, some of the disruptive tendencies exhibited elsewhere in the UN system have-

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crept into the IAEA. There has been a tendency to bring extraneous political issues into the activities of the Board of Governors and General Conference, as well as moves towards bloc voting and a highly confrontational style on the part of certain members of the G-77.

While such behavior has been typical of the UN, it has been far less characteristic of the IAEA and for many years the U.S. and other nations were able to obtain general acceptance that extraneous political issues should be kept out of Vienna. However, the trend for politicization has been growing, the LDC's consistently have asked for more seats on the Board, for more funds for technical assistance, and for more staff positions. They have targeted Taiwan, South Africa, and are now challenging Israel. There even have been signs that the objectivity of the IAEA safeguards system may be challenged since there was a tendency of some LDC members of the Board to support Pakistan in Pakistan's efforts at resisting the up-grading of safeguards at the KANUPP reactor.

U.S. Objectives

U.S. nonproliferation policy mandates that, to the greatest extent practicable, the programs in the non-nuclear weapon states be subject to effective and objective inspections to help detect any diversion or misuse of nuclear materials. As a corollary, the U.S. has a need to strongly influence the nature of this safeguards system to assure its effectiveness and we wish to assure that it enjoys maximum support from other suppliers and consumers.

If the effectiveness of the IAEA safeguards system is threatened, global security will be endangered, the use of nuclear power, in general, will be jeopardized, and all U.S. nuclear exports and nuclear commerce will be threatened. Moreover, the IAEA simply will be unable to assure that the development of safeguards keeps pace with advances in nuclear technology including the use of

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reprocessing and plutonium and the advent of additional enrichment plants. Accordingly, as part of the current policy review, it is incumbent on the U.S. to consider the <u>safeguards alternatives</u> to the IAEA that might be available.

Developments Which Would Cause a U.S. Decision to Withdraw from the IAEA

It is assumed for the purpose of this analysis that there would be two overall conditions that might cause the U.S. to withdraw from the IAEA and thus, seek establishment of a basically new safeguards regime applicable to U.S. nuclear assistance and related programs.

- The U.S. might take a general policy decision to withdraw overall from the UN system because of the excessive politicization that is occurring. Since this option does not appear to be likely in light of current developments, it is no longer discussed in this paper.
- The U.S. might withdraw from the IAEA either now or at some point in the foreseeable future, because of a lack of confidence that the U.S. will be able to influence the IAEA system to its satisfaction to reverse present adverse trends. It might withdraw, for example, if it lacks confidence: in the ability of nuclear supplier states and responsible consumer states to continue effective control over the IAEA safeguards system to assure objectivity, that the IAEA safeguards system will be improved sufficiently to keep pace with the increased demands, or that the IAEA will not be influenced by extraneous political influences.

It is assumed that this will represent the key area of decision making for the U.S. and that, in the process, the U.S. will wish to carefully assess the nature of the reforms that would be essential to preserve the viability of the IAEA safeguards function. It could be argued that the prospects of reform are minimal and that the current trend is likely to continue or grow worse in the future, thus making U.S. withdrawal and more radical measures essential. On the other hand, there are a range of measures that might significantly improve the situation in Vienna. They include modifications in financing the organization of the safeguard program to insulate it from political factors, possible recommendation by the IAEA Board to convene a special General Conference to reconsider the action against Israel, the organization of a major high-level U.S. diplomatic effort to recapture the technical spirit that was dominant in the IAEA for many years, and a proposal to establish special committee of the Board of Governors to monitor the implementation of the IAEA safeguards system to help maintain its effectiveness and objectivity.

However, assuming efforts at reform fail, or are judged unlikely to succeed, the following section discusses the various safeguards options that may be available. Each option is discussed in terms of its legal implications, practicability, likely effectiveness, and implications for U.S. foreign policy and nuclear trade. Pros and cons also are listed.

Those options in which the IAEA safeguards system is not employed would run counter to repeated policy expressions by the U.S. and others favoring the general application of multinational, as contrasted to bilateral safeguards. They also would run counter to repeated U.S. public statements, some of recent vintage, that we are generally satisfied with major aspects of the IAEA's safeguards program, notwithstanding the need for some further major improvements.

Options

A. Bilateral Controls. The U.S. would unilaterally withdraw from the IAEA and would seek to administer the bilateral U.S. safeguards rights contained in its agreements for cooperation.

Under this option, we would seek to reactivate the bilateral safeguards rights in those agreements where we have them. (We have no such rights in the U.S.-EURATOM agreements.) We would organize a U.S. safeguards and inspection group to administer our rights of inspection and controls, most likely in DOE. U.S. agreements typically provide that in the event fallback safeguards rights are activated the parties will "immediately enter into arrangement for the application of safeguards." The agreements (except the Australian and Canadian agreements) specify what rights the U.S. has. Frequently, there is a requirement for consultation with the other country which could provide that country with an opportunity to influence how our rights were implemented.

Our bilateral safeguards presumably would be duplicative and additive to on-going IAEA safeguards in states party to the NPT. We could consider the possibility of reducing the level of implementation to take into account the on-going presence of IAEA safeguards, however, this could be difficult to rationalize if we left the Agency because of the inadequacy of IAEA safeguards. All trilateral safeguards agreements with non-NPT countries to which we were a party (Israel, South Africa, Brazil, Argentina), either could be cancelled or kept in force depending on what would be agreeable to the U.S. and negotiable with the other party.

If the U.S. sought to reactivate bilateral safeguards, it would have to decide whether they only should apply to U.S. assistance or to a cooperating nation's entire program, given the "full scope" safeguards requirement in the Non-Proliferation Act. This would have an obvious bearing on the likely financial and manpower demands that would be involved. The legal right of the U.S. to impose bilateral safeguards on a country's entire program is in question.

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Presently, the IAEA safeguards department employs approximately 150 inspectors. The number of inspectors needed by the U.S. to apply safeguards to U.S. supplied material and equipment would probably be somewhat less than this exclusive of support staff. As a rough estimate the operating costs of the program could be on the order of \$25 million for the staff plus an estimated \$25 million for safeguards research and development. If the U.S. were to take and sustain the position that reduced safeguards inspections could be applied to countries of small proliferation risk (e.g. EURATOM, Japan) the manpower requirements could be substantially reduced. A list of U.S. controlled HEU and Pu in other countries is attached as an annex.

In order to implement this option, the U.S. would have to make a determination that the IAEA is not or will not be applying safeguards and that the US must activate the fallback safeguards rights in its bilateral agreements to assure itself that the safeguards guarantees in agreements were being met. The Atomic Energy Act (the Act), as amended by the NNPA, requires IAEA safeguards be applied as a condition of export. If IAEA safeguards were considered to be inadequate and U.S. fallback safeguards rights activated, the U.S. could continue nuclear exports and cooperation so long as IAEA safeguards also continued to be applied. However, if IAEA safeguards were to cease even if our bilateral safeguards were better, the statutory requirement for IAEA safeguards would not be met.

In that event, the President could waive the requirement under procedures set forth in the Act (Congress reviews this waiver) or the Executive Branch could certify (in the Executive Branch judgment provided to the NRC for exports) that all requirements were met, arguing that equivalent safeguards were in place and the intent of the law was fulfilled. U.S. cooperation with other countries under the NNPA involves the Executive Branch, Congress, and the NRC and a fundamental disagreement between any of these would make nuclear cooperation extremely difficult. In order for a bilateral safeguards approach to be successfully implemented, it is likely that an advance understanding with both Congress and NRC regarding its acceptability would appear necessary.

If, notwithstanding our activation of U.S. bilateral controls, the IAEA still continued to apply safeguards to the activities involved, no immediate question would arise as to whether we were in compliance with the NPT. However, it could be argued by NPT parties that we were not fulfilling our obligations under Article IV if after we ceased our technical assistance activities in the IAEA, we did not establish comparable activities on a bilateral basis. If TAEA safeguards did not continue in parallel with our bilateral safeguards, then the countries in which our bilateral safeguards were being applied would not be in compliance with their NPT obligations, since the NPT requires that TAEA safeguards be applied. In addition, as the NPT is a Treaty to which the U.S. is a party, and therefore part of our law, a serious question arises whether any U.S. exports would be consistent with our NPT obligations absent IAEA safeguards. In this situation we would have to be prepared to seek a change to the NPT.

As a varient of this option, we conceivably could seek to implement our bilateral rights by seeking to have the IAEA conduct the actual inspections for us (to our specifications) and report inspection results directly to the U.S. under a "services contract" type of arrangement. This concept would not involve violation of U.S. agreements or laws since neither our agreements or law specifies how the IAEA is to carry out its inspection activities or to whom the IAEA reports. This concept would also be relevant to Option B in which a group of suppliers might decide to "employ the IAEA" to carry out bilateral inspections to their standards.

Pros

This option, in theory, would maximize the direct ability of the U.S. to control the nature of the safeguards that would apply to its assistance and to directly satisfy itself - through its own nationals - that no apparent diversions are taking place. As such, (within the bounds of the bilateral rights accorded to the U.S.) we could specify to our satisfaction the frequency and intensity of the inspection, containment and surveillance measures to apply. We also would have full and immediate access to

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- data generated by U.S. inspectors. We would minimize the prospect that there would be a watering down in the adequacy of safeguards applied to U.S. assistance due to the introduction of extraneous political factors.
- The intelligence system would have to be tasked to provide real time information, related to compliance with safeguards obligations, however, this may not necessarily provide early warning of diversion in all cases. We could seek, through various measures, to insure that effectiveness of our intelligence system is not adversely affected by our withdrawal from the IAEA.

Cons

- As such, the U.S. most likely would be challenged by most, if not all, cooperating countries as to the <u>need</u> to reimpose bilateral safeguards and the policy and legal validity of such a U.S. action. This could manifest itself in a very non-cooperative attitude toward the actual implementation of our bilateral safeguards rights. Some recipient countries may even refuse to accept bilateral safeguards (e.g., Mexico, India).
- Since, there has not been a break down in the IAEA safeguards system most (and probably all) suppliers and consumers would take issue with our position. Thus, the U.S. would find itself in an isolated position and its global influence in the field of nonproliferation and nuclear trade could be significantly weakened.
- Finally, even if the U.S. were able to induce others to join it, the reactivation of a series of bilateral controls would make for a considerable duplication on controls, and could stimulate some suppliers to weaken their safeguards so as to gain a commercial advantage. In the absence of clear acceptable standards and resources, some suppliers

might not be able to apply effective controls. Also bilateral controls, as a pattern could lack credibility to the world at large since, in general, they would involve arrangements between states that have close political ties with each other.

- Overall effectiveness of safeguards application to a country as a whole would be weakened. The Agency safeguards system would lose the present substantial U.S. support and technical assistance. Also, the benefit of unified application of safeguards to all facilities would be lost.
- U.S. without IAEA and/or Euratom collaboration, to be certain that the materials presented as part of the U.S. safeguarded inventory were not borrowed from IAEA or Euratom accounts to mask losses or diversions.
- B. Obtain the Agreement of All of the London Suppliers that
 They Would Join U.S. in Reverting Back to Bilateral Safeguards

This option would have all of the features of the first option except that the U.S. would work in concert with the members of the London Group and only would revert to bilateral safeguards if other suppliers also would agree to take a comparable step. There would be common agreement between suppliers on the standards that each would follow in applying safeguards, regular consultation to facilitate comment agreement, consultation on measures to minimize needless duplication and the coordination of inspection activities.

Pros

- This option would have all of the advantages of the first option but, in addition, it would avoid the isolation that the U.S. would face if it sought to reimpose bilateral safeguards simply on its own. As such, the U.S. position

that bilateral safeguards are needed would be strengthened and U.S. would be less likely to suffer disadvantages in nuclear trade compared to others.

- The major supplier countries (including the USSR) with the exception of the PRC would be included.

Cons

- It is doubtful whether other suppliers would join in this effort since all are known to strongly prefer the application of IAEA safeguards, most are members of the NPT, and they would argue that the situation in Vienna does not warrant such a radical step at this time.
- Also, several supplier nations do not possess fall-back bilateral safeguards rights, as does the U.S., and they thus would have no legal basis in their supply agreements for imposing bilateral controls.

- An even further weakened Agency safeguards system would continue to be applied to certain countries.
- The international nuclear community would be governed by a confused mixture of safeguards, including bilateral controls as well as IAEA safeguards.
- The ability to gain supplier agreements on common bilateral standards for rigorous safeguards will be very difficult since some suppliers have resisted aspects of IAEA safeguards when they were to be applied to themselves.
- Several of the other negative arguments against the imposition of bilateral safeguards, that appear in Option A also would apply to this case.

C. Withdraw from the IAEA but Seek to have the Safeguards of
Another Multinational Organization (such as the NEA) Substitute for Agency Controls if a Sufficient Number of London Supplier Nations Agree

Under this option consistency with NNPA requirements and NPT commitments would also be as described in Option A.

Under this option, the U.S. and other suppliers might seek to reactivate the moribund security convention of the NEA and extend its application to consumer nations receiving assistance from all, or most, members of the London Suppliers Group.

Pros

- In theory, this option would avoid the pitfalls associated with separate bilateral controls since one multinational group would take on the responsibility. Also, since the OECD is more homogeneous politically than the IAEA and lacks the type of LDC representation now in Vienna, it might be feasible to insulate the safeguards function from devisive political factors. Further, the supplier states (with the exception of the USSR which is not an OECD member) would have a proportionately greater voice in the NEA than the IAEA.
- The combined intelligence system may reinforce this option with additional real time information, related to compliance with safeguards obligations, however, this may not necessarily provide early warning of diversion in all cases.

Cons

- This option probably would be strongly rejected by suppliers and consumers for many of the reasons already cited in the first two options but, in addition, the following points should be made:

- The NEA is a relatively small and weak organization and it doesn't possess the resources, talents, structure or organization to take on a major safeguards job. Thus, there would be a good likelihood that if this course were pursued there could be serious erosion in safeguards effectiveness.
- Neither the USSR nor PRC would be included in this supplier group.
- Those states not members of the NEA, including states in Asia, Latin America, and Africa would not accept safeguards administered by a West European regional organization in which they are not full members and fail to have an equal voice.

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D. <u>Limited Participation by the U.S. in the IAEA (principally</u> or only in the Safeguards Program)

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Under this option, the U.S. would not technically withdraw from the IAEA and it would continue to rely, at least for now, on the IAEA to administer the safeguards function. Our bilateral controls would not be reactivated and we would continue to pay our assessed share of the IAEA regular budget, which covers the safeguards programs as well as other activities. However, we would no longer make voluntary contributions to the Agency's technical assistance program. Moreover, we would severly limit our actual participation in non-safeguards activities that are financed out of the regular assessed budget, (such as nuclear, safety, waste management, INIS, Trieste, Monoco, the Joint Agricultural Program, etc.). In other words, we would avoid hosting IAEA meetings in these areas, and would avoid attending IAEA panels, meetings, conferences and symposia on non-safeguard related subjects.

This option could be adopted either as an interim or long-term option to show our displeasure at the trend toward "politicization" in the Agency.

The rationale would be that the IAEA safeguards program remains sufficiently important to merit our support but that the other programs do not.

Pros

- This option would avoid the possible immediate dismantling of the IAEA safeguards system and it would avoid most of the legal questions and problems posed by the first option.
- It also is an option that theoretically is within complete control of the U.S. to implement and we would save funds and resources as a result of reduced U.S. participation in non-safeguards activities.
- Others would recognize that we are serious in our concerns about the erosion of technical objectivity in the IAEA but we would do nothing to disrupt the operations of IAEA safeguards. Rather, all of our energies could be devoted to support of the safeguards system.

Cons

- This option most likely would aggravate the confrontation now growing in Vienna in light of the importance that the developing nations ascribe to the IAEA program of technical assistance and U.S. contributions thereto.
- Serious accusations would be made that the U.S. was failing to meet its obligations under Article IV of the NPT which calls upon adhering states to assist each other in the civil nuclear field. Part of the basic "bargain" in the NPT was that nuclear weapon states would assist the non-nuclear wapon states if the latter states gave up the weapons option. If the U.S. terminated its contributions to the IAEA technical assistance program, it would be accused of breaking this bargain and the NPT regime would be weakened.

- It is not likely that any other supplier state would take a similar action. Accordingly, the U.S. might suffer competitively in the field of nuclear trade unless we took steps to expand our programs of bilateral technical assistance.
- Needed technical assistance to deserving developing countries would be reduced thus impairing their economic progress and development.
- Finally, this option would reduce the U.S. influence in some non-safeguards programs to which we have ascribed considerable importance, and we would not derive full benefit from some of those activities which previously have been of interest to the U.S. technical community (the nuclear safety, fusion, nuclear data programs, etc.). Moreover, we would be continuing to pay, but without return, our full assessed contribution to some of these efforts.

As a companion analysis to this paper a brief assessment is being made of the value of the various IAEA technical programs from various U.S. perspectives.

E. Withdraw from the IAEA but Continue to Satisfy U.S. Safeguards Obligations by Having IAEA Safeguards Stay in Place
on U.S. Assisted Activities. Possibly Use an intermediary
Member State to help monitor for the U.S. the effectiveness
of IAEA safeguards and to "certify" their effectiveness to
the U.S.

Under this option IAEA safeguards would stay in force on U.S. assisted activities even though we terminated our membership in the Agency. Also, we would employ the auspices of an intermediary supplier state that was a member of the Agency to verify, to the extent practicable, that IAEA safeguards that are being applied to our assistance are effective. Canada or Australia might be likely candidates since their export policies closely track those of the U.S.

U.S. withdrawal from the IAEA under this option would not result in disrupting the continuity of safeguards in IAEA member states which whom we cooperate that are parties to the NPT. Issues could arise, however, as to the continuity of safeguards under existing trilateral safeguards agreements between the U.S., the IAEA and non-parties to the NPT. Also, even if it is decided that such agreements should stay in effect, the Board might ask the U.S. to make a donation equal to its previously assessed share of the safeguards costs. The U.S. could, of course, make voluntary contributions to the program even if it were no longer a member if the Board of Governors was prepared to accept the gift.

Pros

- In the event the U.S. withdraws from the IAEA this option would help preserve the continuity of IAEA safeguards and would avoid moves towards alternate safeguards arrangements that might undercut that regime.
- It also would enable the U.S. to fulfill its safeguards obligations under the NPT and NNPA and we would avoid the costs, controversies and disruptions likely to be associated with the application of bilateral contols.

Cons

- Important direct U.S. influence on the course and direction of IAEA safeguards would be lost as would be our participation in other IAEA activities having a nonproliferation character. We would have to rely on intermediaries to influence the process, which only would work if they shared our views.
- Even if the IAEA safeguards program continued, the IAEA overall, would be significantly weakened with U.S. with-drawal and the leadership the U.S. has assumed in Vienna would pass to others. Our ability to counter moves to politicization in Vienna would be lost.

- Finally, while it is conceivable that another supplier state might serve as our "intermediary" and might keep us informed, no state could be expected to "certify or guarantee" to us, in a legal sense, that U.S. assisted activities were being effectively safeguarded. (Even now, we ourselves have problems in assessing such effectiveness.) Rather, we could only expect to receive the impressions or opinions the intermediary of state as to the adequacy of the efforts underway. Thus, our intimate familiarity with the detailed workings of the IAEA safeguards system would be greatly reduced.

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U.S. Origin Highly Enriched Uranium and Plutonium Located in Other Countries

A review was made of the quantity of U.S.-origin HEU (uranium enriched to greater than 20% in U-235) and calculated Pu to be located at all U.S. trading partners. The results are grouped into three categories, i.e., those having significant quantities of material and are of high proliferation risk, those having moderate quantity of material and are of moderate proliferation risk and those having varying quantity of material and are of little or no proliferation risk. The countries in the first category might be safeguarded on a frequent, almost continuous basis (some could be considered to require on-site inspectors); those in the second category might be safeguarded moderately, possibly semi-annually or annually, and those in the third category might be safeguarded only to the extent required by political relations. The table below illustrates the above discussion:

Category	Countries	Quantity of HEU (kg)		Pu (kg)
7 -	Pakistan	15		0.1
·	India	0		207
	Israel	26	. *	0.6
	South Africa	28		0.2
	Argentina	56		0.009
•	Brazil	7	• •	0.1
	Taiwan	9		0.3
	Spain	35		45
	Republic of Korea	18	2	0.013
	Romania	37		0
	Chile	9		Ŏ
	Switzerland	29		350
	Mexico	13		0.150
	Iran	5		0.103
•	Portugal	14		0.050
(11 -	Sweden	163	in the second	
•	Turkey	14		0.3
•	Yugoslavia	6		0.3
	Philippines	3		0
	Austria	22		0.2

Category	Countries	Quantity of HEU (kg)	Pu (kg)
	EURATOM Japan Australia	10,500 .810 64	6,500 340
	Canada Norway Colombia	1,026 3	16 2.6
	Finland Peru Thailand	3 0420 8	0.074 0.002 0 0.064
	Vietnam Uruguay Bolivia	0	0.074 0.074 0
	Zaire		0